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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,609	11/20/2003	Balakrishnan Sridhar	605	7137
22474	7590	06/14/2006	EXAMINER	
DOUGHERTY CLEMENTS 1901 ROXBOROUGH ROAD SUITE 300 CHARLOTTE, NC 28211			DIACOU, ARI M	
			ART UNIT	PAPER NUMBER
			3663	

DATE MAILED: 06/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/716,609		SRIDHAR ET AL.	
	Examiner		Art Unit	
	Ari M. Diacou		3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-31 is/are rejected.
- 7) ☒ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. In the remarks dated 4-21-2006, the applicant makes the following arguments:
 - a. On page 9, that the newly submitted drawings overcome the previous objection to the drawings.
 - b. On page 10, that the figure 7 of Ye, teaches "constant gain mode" but does not teach "gain threshold mode"
2. Argument A is convincing, the objection to the drawings is withdrawn.
3. Argument B is unconvincing. Figure 7 of Ye discloses a flowchart whereby the amplifier detects if the output power is above a threshold, and if it is, takes steps to control the gain. Without a contrary definition in the specification, the examiner can reasonably expect the amplifier of Ye to operate in a "gain threshold mode".
Furthermore, the word "threshold" is explicitly used in [Fig. 7, #720].
4. In lieu of the rejection of claims 22 and 31, this action is made non-final.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3663

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Because the instant application has not been published, the following claim language appearing in the office action was OCR'd from a scanned copy of the claims. While the examiner has taken pains to ensure accuracy, it is possible that discrepancies exist

9. Claim 15-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ye et al. (USP No. 6417965) in view of Kinoshita et al. (USPAP No. 2002/0001124).

Art Unit: 3663

- Regarding claim 15, Ye discloses An optical amplifying apparatus, comprising:
 - an optical amplifying device; [Fig. 2, #240]
 - a controlling device configured for operating said optical amplifying device in one of a gain threshold mode and a constant gain mode, said controlling device further configured for switching the optical amplifying device from operating in the gain threshold mode to operating in the constant gain mode when an absolute value of a gain error exceeds a gain threshold, wherein the gain error is a difference between a target gain and a gain of the optical amplifying device; and [Fig. 7] [Col. 9, line 66 – Col. 10, line 30]
 - a measuring device configured to measure an input power (P_{in}) of the optical amplifying device, said measuring device also configured to communicate with said controlling device. [#232 and #233]

but fails to disclose the power being measured from the input and output power.

Kinoshita teaches measuring both the output and input power and

calculating/looking-up the gain on the fly [Fig. 5, #81, #82] [¶ 0074-0075].

Therefore, it would have been obvious to one skilled in the art (e.g. an optical engineer) at the time the invention was made, to monitor the output and input, for the advantage of maintaining the gain of the optical amplifier.

- Regarding claim 17, the parent claim being rejected over Ye in view of Kinoshita above, Kinoshita further discloses:

- a plurality of optical amplifier stages connected in series, wherein an input of a first optical amplifier stage is an input of said amplifying device; and [Fig. 13, #61-1 and #61-2]
 - one or more variable optical attenuators (VOA) connected in series with said optical amplifier stages such that each VOA receives an output of one optical amplifier stage and outputs to a next optical amplifier stage, wherein at least one VOA is controlled by said controlling device, [Fig. 13, #52]
 - wherein said measuring device is further configured to measure power levels on a plurality of points along a connected chain of said plurality of optical amplifier stages and VOAs. [Fig. 13, #75]
- Regarding claim 23, Ye and Kinoshita disclose the invention with all the limitations of claim 15 above, but in addition Ye Kinoshita teaches that a variable optical attenuator may be placed at the input 8 of any of the optical amplifier species disclosed in 2002/0001124 [¶ 0055]. Further Ye discloses in figure 1 that an indefinite chain of optical amplifier stages may be serially compiled to produce a viable transmission system. [Fig. 1, #18] [Col. 3, lines 30-67] Therefore, it would have been obvious to one skilled in the art (e.g. an optical engineer) at the time the invention was made, to place the optical amplifier of figure 5 of Kinoshita into module 18 of figure 1 of Ye thereby *comprising* the limitations of claim 23, for the advantage of creating a transmission link of a length that would necessitate a plurality of amplifier nodes.

- Regarding claim 16, the parent claim being rejected over Ye in view of Kinoshita above, Ye further discloses at least one of the gain threshold and the target gain are predetermined. [Col. 10, lines 11-16]
- Regarding claims 19 and 24, the parent claim being rejected over Ye in view of Kinoshita above, Kinoshita further discloses automatic level control being utilized. [Fig. 13, #51]
- Regarding claims 20 and 29, the parent claim being rejected over Ye in view of Kinoshita above, Ye further discloses the capability to deal with transient events [Col. 5, lines 4-16], but fails to mention a predetermined time to being response. Read broadly however, the examiner considers zero delay time to be a predetermined amount of time, since its designers had to determine that time before the device was built.
- Regarding claims 18 and 28, the parent claim being rejected over Ye in view of Kinoshita above, Kinoshita further discloses a DCF with signal sampling being taken at the input and output of the DCF. [Fig. 13, #75]
- Regarding claims 22/26/31 and 27, the parent claim being rejected over Ye in view of Kinoshita above, the limitations provided in the claims are merely the definitions of the terms "transient event" and "VOA" commonly accepted in the art.
- Regarding claim 25, the parent claim being rejected over Ye in view of Kinoshita above, the lockout time while not mentioned in Ye, may be regarded as the response time of the circuit in figure 8B.

- Claims 22 and 31 are rejected as reading on Kinoshita's teaching of ALC [0072].

Conclusion

10. While patent drawings are not drawn to scale, relationships clearly shown in the drawings of a reference patent cannot be disregarded in determining the patentability of claims. See In re Mraz, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).

11. The references made herein are done so for the convenience of the applicant. They are in no way intended to be limiting. The prior art should be considered in its entirety.

12. The prior art which is cited but not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ari M. Diacou whose telephone number is (571) 272-5591. The examiner can normally be reached on Monday - Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on (571) 272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AMD 6/12/2006



JACK KEITH
SUPERVISORY PATENT EXAMINER